CHEMICALS, THE ENVIRONMENT, AND YOU		
Ohio Academic Standards for Physical Science - Grade 7		
Lesson	**Standard**	**Description**
2, 4	**1**	Investigate how matter can change forms but the total amount of matter remains constant.
Ohio Academic Standards for Science and Technology – Grade 7		
Lesson	**Standard**	**Description**
5, 6	**1**	Explain how needs, attitudes and values influence the direction of technological development in various cultures.
1, 5, 6	**2**	Describe how decisions to develop and use technologies often put environmental and economic concerns in direct competition with each other.
1, 4, 5, 6	**3**	Recognize that science can only answer some questions and technology can only solve some human problems.
Ohio Academic Standards for Scientific Inquiry – Grade 7		
2, 3, 4	**1**	Explain that variables and controls can affect the results of an investigation and that ideally one variable should be tested at a time; however it is not always possible to control all variables.
2, 3, 4	**2**	Identify simple independent and dependent variables.
2, 3, 4, 6	**3**	Formulate and identify questions to guide scientific investigations that connect to science concepts and can be answered through scientific investigations.
2, 3, 4	**4**	Choose the appropriate tools and instruments and use relevant safety procedures to complete scientific investigations.
3, 4, 5, 6	**5**	Analyze alternative scientific explanations and predictions and recognize that there may be more than one good way to interpret a given set of data.
3, 4, 5	**6**	Identify faulty reasoning and statements that go beyond the evidence or misinterpret the evidence.
3, 4	**7**	Use graphs, tables and charts to study physical phenomena and infer mathematical relationships between variables (e.g., speed and density).
Ohio Academic Standards for Scientific Ways of Knowing – Grade 7		
3	**1**	Show that the reproducibility of results is essential to reduce bias in scientific investigations.

3	**2**	Describe how repetition of an experiment may reduce bias.
3, 4, 5	**3**	Describe how the work of science requires a variety of human abilities and qualities that are helpful in daily life (e.g., reasoning, creativity, skepticism and openness).

Ohio Academic Standards for English Language Arts – Grade 7		
Lesson	**Standard**	**Description**
1, 2, 6	**Vocabulary 1**	Define the meaning of unknown words through context clues and the author's use of comparison, contrast, definition, restatement and example.
1, 2, 6	**Reading Process 4**	Summarize the information in texts, using key ideas, supporting details and referencing gaps or contradictions.
1, 2, 4, 5, 6	**Reading Applications 5**	Analyze information found in maps, charts, tables, graphs, diagrams, cutaways and overlays.
2, 3, 4, 5	**Writing Process 6**	Organize writing with an effective and engaging introduction, body and a conclusion that summarizes, extends or elaborates on points or ideas in the writing.
2, 3, 4, 5	**Writing Process 8**	Group related ideas into paragraphs, including topic sentences following paragraph form, and maintain a consistent focus across paragraphs.
2, 3, 4, 5	**Writing Process 12**	Add and delete information and details to better elaborate on a stated central idea and to more effectively accomplish purpose
2, 3, 4, 5	**Writing Applications 4**	Write informational essays or reports, including research, that present a literal understanding of the topic, include specific facts, details and examples from multiple sources, and create an organizing structure appropriate to the purpose, audience and context.
4, 5	**Writing Applications 5**	Write persuasive essays that establish a clear position and include relevant information to support ideas.
4	**Research 1**	Generate a topic, assigned or personal interest, and open-ended questions for research and develop a plan for gathering information.
2, 3, 4, 6	**Research 5**	Analyze and organize important information, and select appropriate sources to support central ideas, concepts and themes.
2, 3, 4, 6	**Research 8**	Use a variety of communication techniques, including oral, visual, written or multimedia reports, to present information that supports a clear position with organized and relevant evidence about the topic or research question.

Ohio Academic Standards for Mathematics – Grade 7		
Lesson	**Standard**	**Description**
2, 3, 4	**Number, Number Sense, and Operations 7**	Solve problems using the appropriate form of a rational number (fraction, decimal or percent).
2, 3	**Measurement 4**	Solve problems involving proportional relationships and scale factors; e.g., scale models that require unit conversions within the same measurement system.
2, 3	**Measurement 5**	Analyze problem situations involving measurement concepts, select appropriate strategies, and use an organized approach to solve narrative and increasingly complex problems.
1, 2, 3	**Patterns, Functions and Algebra 1**	Represent and analyze patterns, rules and functions with words, tables, graphs and simple variable expressions.
3	**Patterns, Functions and Algebra 5**	Represent linear equations by plotting points in the coordinate plane.
2, 3	**Patterns, Functions and Algebra 8**	Use formulas in problem-solving situations.
3, 4	**Patterns, Functions and Algebra 10**	Analyze linear and simple nonlinear relationships to explain how a change in one variable results in the change of another.
2, 3, 4	**Data Analysis and Probability 8**	Make predictions based on theoretical probabilities, design and conduct an experiment to test the predictions, compare actual results to predicted results, and explain differences.